

6

RAW SEQUENCE LISTING

The Biotechnology Systems Branch of the Scientific and Technical
Information Center (STIC) no errors detected.

Application Serial Number: 10/511545
Source: PCT
Date Processed by STIC: 7-7-05

ENTERED



PCT

RAW SEQUENCE LISTING

DATE: 07/07/2005

PATENT APPLICATION: US/10/511,545

TIME: 13:09:52

Input Set : A:\US10511545-seq list.txt

Output Set: N:\CRF4\07072005\J511545.raw

```

3 <110> APPLICANT: Evotec NeuroSciences GmbH
5 <120> TITLE OF INVENTION: Diagnostic and therapeutic use of an ATP-binding
6 cassette gene and protein for neurodegenerative
7 diseases
9 <130> FILE REFERENCE: P67818US1
C--> 11 <140> CURRENT APPLICATION NUMBER: US/10/511,545
C--> 12 <141> CURRENT FILING DATE: 2004-10-18
14 <160> NUMBER OF SEQ ID NOS: 14
16 <170> SOFTWARE: PatentIn Ver. 2.1
18 <210> SEQ ID NO: 1
19 <211> LENGTH: 2261
20 <212> TYPE: PRT
21 <213> ORGANISM: Homo sapiens
23 <400> SEQUENCE: 1
24 Met Ala Cys Trp Pro Gln Leu Arg Leu Leu Leu Trp Lys Asn Leu Thr
25 1 5 10 15
27 Phe Arg Arg Arg Gln Thr Cys Gln Leu Leu Leu Glu Val Ala Trp Pro
28 20 25 30
30 Leu Phe Ile Phe Leu Ile Leu Ile Ser Val Arg Leu Ser Tyr Pro Pro
31 35 40 45
33 Tyr Glu Gln His Glu Cys His Phe Pro Asn Lys Ala Met Pro Ser Ala
34 50 55 60
36 Gly Thr Leu Pro Trp Val Gln Gly Ile Ile Cys Asn Ala Asn Asn Pro
37 65 70 75 80
39 Cys Phe Arg Tyr Pro Thr Pro Gly Glu Ala Pro Gly Val Val Gly Asn
40 85 90 95
42 Phe Asn Lys Ser Ile Val Ala Arg Leu Phe Ser Asp Ala Arg Arg Leu
43 100 105 110
45 Leu Leu Tyr Ser Gln Lys Asp Thr Ser Met Lys Asp Met Arg Lys Val
46 115 120 125
48 Leu Arg Thr Leu Gln Gln Ile Lys Lys Ser Ser Ser Asn Leu Lys Leu
49 130 135 140
51 Gln Asp Phe Leu Val Asp Asn Glu Thr Phe Ser Gly Phe Leu Tyr His
52 145 150 155 160
54 Asn Leu Ser Leu Pro Lys Ser Thr Val Asp Lys Met Leu Arg Ala Asp
55 165 170 175
57 Val Ile Leu His Lys Val Phe Leu Gln Gly Tyr Gln Leu His Leu Thr
58 180 185 190
60 Ser Leu Cys Asn Gly Ser Lys Ser Glu Glu Met Ile Gln Leu Gly Asp
61 195 200 205
63 Gln Glu Val Ser Glu Leu Cys Gly Leu Pro Arg Glu Lys Leu Ala Ala
64 210 215 220
66 Ala Glu Arg Val Leu Arg Ser Asn Met Asp Ile Leu Lys Pro Ile Leu

```

RAW SEQUENCE LISTING

DATE: 07/07/2005

PATENT APPLICATION: US/10/511,545

TIME: 13:09:52

Input Set : A:\US10511545-seq list.txt

Output Set: N:\CRF4\07072005\J511545.raw

```

67 225                230                235                240
69 Arg Thr Leu Asn Ser Thr Ser Pro Phe Pro Ser Lys Glu Leu Ala Glu
70                245                250                255
72 Ala Thr Lys Thr Leu Leu His Ser Leu Gly Thr Leu Ala Gln Glu Leu
73                260                265                270
75 Phe Ser Met Arg Ser Trp Ser Asp Met Arg Gln Glu Val Met Phe Leu
76                275                280                285
78 Thr Asn Val Asn Ser Ser Ser Ser Thr Gln Ile Tyr Gln Ala Val
79                290                295                300
81 Ser Arg Ile Val Cys Gly His Pro Glu Gly Gly Gly Leu Lys Ile Lys
82 305                310                315                320
84 Ser Leu Asn Trp Tyr Glu Asp Asn Asn Tyr Lys Ala Leu Phe Gly Gly
85                325                330                335
87 Asn Gly Thr Glu Glu Asp Ala Glu Thr Phe Tyr Asp Asn Ser Thr Thr
88                340                345                350
90 Pro Tyr Cys Asn Asp Leu Met Lys Asn Leu Glu Ser Ser Pro Leu Ser
91                355                360                365
93 Arg Ile Ile Trp Lys Ala Leu Lys Pro Leu Leu Val Gly Lys Ile Leu
94                370                375                380
96 Tyr Thr Pro Asp Thr Pro Ala Thr Arg Gln Val Met Ala Glu Val Asn
97 385                390                395                400
99 Lys Thr Phe Gln Glu Leu Ala Val Phe His Asp Leu Glu Gly Met Trp
100                405                410                415
102 Glu Glu Leu Ser Pro Lys Ile Trp Thr Phe Met Glu Asn Ser Gln Glu
103                420                425                430
105 Met Asp Leu Val Arg Met Leu Leu Asp Ser Arg Asp Asn Asp His Phe
106                435                440                445
108 Trp Glu Gln Gln Leu Asp Gly Leu Asp Trp Thr Ala Gln Asp Ile Val
109                450                455                460
111 Ala Phe Leu Ala Lys His Pro Glu Asp Val Gln Ser Ser Asn Gly Ser
112 465                470                475                480
114 Val Tyr Thr Trp Arg Glu Ala Phe Asn Glu Thr Asn Gln Ala Ile Arg
115                485                490                495
117 Thr Ile Ser Arg Phe Met Glu Cys Val Asn Leu Asn Lys Leu Glu Pro
118                500                505                510
120 Ile Ala Thr Glu Val Trp Leu Ile Asn Lys Ser Met Glu Leu Leu Asp
121                515                520                525
123 Glu Arg Lys Phe Trp Ala Gly Ile Val Phe Thr Gly Ile Thr Pro Gly
124                530                535                540
126 Ser Ile Glu Leu Pro His His Val Lys Tyr Lys Ile Arg Met Asp Ile
127 545                550                555                560
129 Asp Asn Val Glu Arg Thr Asn Lys Ile Lys Asp Gly Tyr Trp Asp Pro
130                565                570                575
132 Gly Pro Arg Ala Asp Pro Phe Glu Asp Met Arg Tyr Val Trp Gly Gly
133                580                585                590
135 Phe Ala Tyr Leu Gln Asp Val Val Glu Gln Ala Ile Ile Arg Val Leu
136                595                600                605
138 Thr Gly Thr Glu Lys Lys Thr Gly Val Tyr Met Gln Gln Met Pro Tyr
139                610                615                620

```

RAW SEQUENCE LISTING

DATE: 07/07/2005

PATENT APPLICATION: US/10/511,545

TIME: 13:09:52

Input Set : A:\US10511545-seq list.txt

Output Set: N:\CRF4\07072005\J511545.raw

```

141 Pro Cys Tyr Val Asp Asp Ile Phe Leu Arg Val Met Ser Arg Ser Met
142 625                      630                      635                      640
144 Pro Leu Phe Met Thr Leu Ala Trp Ile Tyr Ser Val Ala Val Ile Ile
145                      645                      650                      655
147 Lys Gly Ile Val Tyr Glu Lys Glu Ala Arg Leu Lys Glu Thr Met Arg
148                      660                      665                      670
150 Ile Met Gly Leu Asp Asn Ser Ile Leu Trp Phe Ser Trp Phe Ile Ser
151                      675                      680                      685
153 Ser Leu Ile Pro Leu Leu Val Ser Ala Gly Leu Leu Val Val Ile Leu
154 690                      695                      700
156 Lys Leu Gly Asn Leu Leu Pro Tyr Ser Asp Pro Ser Val Val Phe Val
157 705                      710                      715                      720
159 Phe Leu Ser Val Phe Ala Val Val Thr Ile Leu Gln Cys Phe Leu Ile
160                      725                      730                      735
162 Ser Thr Leu Phe Ser Arg Ala Asn Leu Ala Ala Ala Cys Gly Gly Ile
163                      740                      745                      750
165 Ile Tyr Phe Thr Leu Tyr Leu Pro Tyr Val Leu Cys Val Ala Trp Gln
166                      755                      760                      765
168 Asp Tyr Val Gly Phe Thr Leu Lys Ile Phe Ala Ser Leu Leu Ser Pro
169 770                      775                      780
171 Val Ala Phe Gly Phe Gly Cys Glu Tyr Phe Ala Leu Phe Glu Glu Gln
172 785                      790                      795                      800
174 Gly Ile Gly Val Gln Trp Asp Asn Leu Phe Glu Ser Pro Val Glu Glu
175                      805                      810                      815
177 Asp Gly Phe Asn Leu Thr Thr Ser Val Ser Met Met Leu Phe Asp Thr
178                      820                      825                      830
180 Phe Leu Tyr Gly Val Met Thr Trp Tyr Ile Glu Ala Val Phe Pro Gly
181                      835                      840                      845
183 Gln Tyr Gly Ile Pro Arg Pro Trp Tyr Phe Pro Cys Thr Lys Ser Tyr
184 850                      855                      860
186 Trp Phe Gly Glu Glu Ser Asp Glu Lys Ser His Pro Gly Ser Asn Gln
187 865                      870                      875                      880
189 Lys Arg Ile Ser Glu Ile Cys Met Glu Glu Glu Pro Thr His Leu Lys
190                      885                      890                      895
192 Leu Gly Val Ser Ile Gln Asn Leu Val Lys Val Tyr Arg Asp Gly Met
193                      900                      905                      910
195 Lys Val Ala Val Asp Gly Leu Ala Leu Asn Phe Tyr Glu Gly Gln Ile
196                      915                      920                      925
198 Thr Ser Phe Leu Gly His Asn Gly Ala Gly Lys Thr Thr Thr Met Ser
199 930                      935                      940
201 Ile Leu Thr Gly Leu Phe Pro Pro Thr Ser Gly Thr Ala Tyr Ile Leu
202 945                      950                      955                      960
204 Gly Lys Asp Ile Arg Ser Glu Met Ser Thr Ile Arg Gln Asn Leu Gly
205                      965                      970                      975
207 Val Cys Pro Gln His Asn Val Leu Phe Asp Met Leu Thr Val Glu Glu
208                      980                      985                      990
210 His Ile Trp Phe Tyr Ala Arg Leu Lys Gly Leu Ser Glu Lys His Val
211 995                      1000                      1005
213 Lys Ala Glu Met Glu Gln Met Ala Leu Asp Val Gly Leu Pro Ser Ser

```

RAW SEQUENCE LISTING

DATE: 07/07/2005

PATENT APPLICATION: US/10/511,545

TIME: 13:09:52

Input Set : A:\US10511545-seq list.txt

Output Set: N:\CRF4\07072005\J511545.raw

```

214      1010                      1015                      1020
216 Lys Leu Lys Ser Lys Thr Ser Gln Leu Ser Gly Gly Met Gln Arg Lys
217 1025                      1030                      1035                      1040
219 Leu Ser Val Ala Leu Ala Phe Val Gly Gly Ser Lys Val Val Ile Leu
220                      1045                      1050                      1055
222 Asp Glu Pro Thr Ala Gly Val Asp Pro Tyr Ser Arg Arg Gly Ile Trp
223                      1060                      1065                      1070
225 Glu Leu Leu Leu Lys Tyr Arg Gln Gly Arg Thr Ile Ile Leu Ser Thr
226                      1075                      1080                      1085
228 His His Met Asp Glu Ala Asp Val Leu Gly Asp Arg Ile Ala Ile Ile
229 1090                      1095                      1100
231 Ser His Gly Lys Leu Cys Cys Val Gly Ser Ser Leu Phe Leu Lys Asn
232 1105                      1110                      1115                      1120
234 Gln Leu Gly Thr Gly Tyr Tyr Leu Thr Leu Val Lys Lys Asp Val Glu
235                      1125                      1130                      1135
237 Ser Ser Leu Ser Ser Cys Arg Asn Ser Ser Ser Thr Val Ser Tyr Leu
238                      1140                      1145                      1150
240 Lys Lys Glu Asp Ser Val Ser Gln Ser Ser Ser Asp Ala Gly Leu Gly
241                      1155                      1160                      1165
243 Ser Asp His Glu Ser Asp Thr Leu Thr Ile Asp Val Ser Ala Ile Ser
244 1170                      1175                      1180
246 Asn Leu Ile Arg Lys His Val Ser Glu Ala Arg Leu Val Glu Asp Ile
247 1185                      1190                      1195                      1200
249 Gly His Glu Leu Thr Tyr Val Leu Pro Tyr Glu Ala Ala Lys Glu Gly
250                      1205                      1210                      1215
252 Ala Phe Val Glu Leu Phe His Glu Ile Asp Asp Arg Leu Ser Asp Leu
253                      1220                      1225                      1230
255 Gly Ile Ser Ser Tyr Gly Ile Ser Glu Thr Thr Leu Glu Glu Ile Phe
256 1235                      1240                      1245
258 Leu Lys Val Ala Glu Glu Ser Gly Val Asp Ala Glu Thr Ser Asp Gly
259 1250                      1255                      1260
261 Thr Leu Pro Ala Arg Arg Asn Arg Arg Ala Phe Gly Asp Lys Gln Ser
262 1265                      1270                      1275                      1280
264 Cys Leu Arg Pro Phe Thr Glu Asp Asp Ala Ala Asp Pro Asn Asp Ser
265                      1285                      1290                      1295
267 Asp Ile Asp Pro Glu Ser Arg Glu Thr Asp Leu Leu Ser Gly Met Asp
268                      1300                      1305                      1310
270 Gly Lys Gly Ser Tyr Gln Val Lys Gly Trp Lys Leu Thr Gln Gln Gln
271                      1315                      1320                      1325
273 Phe Val Ala Leu Leu Trp Lys Arg Leu Leu Ile Ala Arg Arg Ser Arg
274 1330                      1335                      1340
276 Lys Gly Phe Phe Ala Gln Ile Val Leu Pro Ala Val Phe Val Cys Ile
277 1345                      1350                      1355                      1360
279 Ala Leu Val Phe Ser Leu Ile Val Pro Pro Phe Gly Lys Tyr Pro Ser
280                      1365                      1370                      1375
282 Leu Glu Leu Gln Pro Trp Met Tyr Asn Glu Gln Tyr Thr Phe Val Ser
283                      1380                      1385                      1390
285 Asn Asp Ala Pro Glu Asp Thr Gly Thr Leu Glu Leu Leu Asn Ala Leu
286                      1395                      1400                      1405

```

RAW SEQUENCE LISTING

DATE: 07/07/2005

PATENT APPLICATION: US/10/511,545

TIME: 13:09:52

Input Set : A:\US10511545-seq list.txt

Output Set: N:\CRF4\07072005\J511545.raw

```

288 Thr Lys Asp Pro Gly Phe Gly Thr Arg Cys Met Glu Gly Asn Pro Ile
289      1410      1415      1420
291 Pro Asp Thr Pro Cys Gln Ala Gly Glu Glu Glu Trp Thr Thr Ala Pro
292 1425      1430      1435      1440
294 Val Pro Gln Thr Ile Met Asp Leu Phe Gln Asn Gly Asn Trp Thr Met
295      1445      1450      1455
297 Gln Asn Pro Ser Pro Ala Cys Gln Cys Ser Ser Asp Lys Ile Lys Lys
298      1460      1465      1470
300 Met Leu Pro Val Cys Pro Pro Gly Ala Gly Gly Leu Pro Pro Pro Gln
301      1475      1480      1485
303 Arg Lys Gln Asn Thr Ala Asp Ile Leu Gln Asp Leu Thr Gly Arg Asn
304      1490      1495      1500
306 Ile Ser Asp Tyr Leu Val Lys Thr Tyr Val Gln Ile Ile Ala Lys Ser
307 1505      1510      1515      1520
309 Leu Lys Asn Lys Ile Trp Val Asn Glu Phe Arg Tyr Gly Gly Phe Ser
310      1525      1530      1535
312 Leu Gly Val Ser Asn Thr Gln Ala Leu Pro Pro Ser Gln Glu Val Asn
313      1540      1545      1550
315 Asp Ala Thr Lys Gln Met Lys Lys His Leu Lys Leu Ala Lys Asp Ser
316      1555      1560      1565
318 Ser Ala Asp Arg Phe Leu Asn Ser Leu Gly Arg Phe Met Thr Gly Leu
319      1570      1575      1580
321 Asp Thr Arg Asn Asn Val Lys Val Trp Phe Asn Asn Lys Gly Trp His
322 1585      1590      1595      1600
324 Ala Ile Ser Ser Phe Leu Asn Val Ile Asn Asn Ala Ile Leu Arg Ala
325      1605      1610      1615
327 Asn Leu Gln Lys Gly Glu Asn Pro Ser His Tyr Gly Ile Thr Ala Phe
328      1620      1625      1630
330 Asn His Pro Leu Asn Leu Thr Lys Gln Gln Leu Ser Glu Val Ala Pro
331      1635      1640      1645
333 Met Thr Thr Ser Val Asp Val Leu Val Ser Ile Cys Val Ile Phe Ala
334      1650      1655      1660
336 Met Ser Phe Val Pro Ala Ser Phe Val Val Phe Leu Ile Gln Glu Arg
337 1665      1670      1675      1680
339 Val Ser Lys Ala Lys His Leu Gln Phe Ile Ser Gly Val Lys Pro Val
340      1685      1690      1695
342 Ile Tyr Trp Leu Ser Asn Phe Val Trp Asp Met Cys Asn Tyr Val Val
343      1700      1705      1710
345 Pro Ala Thr Leu Val Ile Ile Ile Phe Ile Cys Phe Gln Gln Lys Ser
346      1715      1720      1725
348 Tyr Val Ser Ser Thr Asn Leu Pro Val Leu Ala Leu Leu Leu Leu
349      1730      1735      1740
351 Tyr Gly Trp Ser Ile Thr Pro Leu Met Tyr Pro Ala Ser Phe Val Phe
352 1745      1750      1755      1760
354 Lys Ile Pro Ser Thr Ala Tyr Val Val Leu Thr Ser Val Asn Leu Phe
355      1765      1770      1775
357 Ile Gly Ile Asn Gly Ser Val Ala Thr Phe Val Leu Glu Leu Phe Thr
358      1780      1785      1790
360 Asp Asn Lys Leu Asn Asn Ile Asn Asp Ile Leu Lys Ser Val Phe Leu

```

VERIFICATION SUMMARY

DATE: 07/07/2005

PATENT APPLICATION: US/10/511,545

TIME: 13:09:53

Input Set : A:\US10511545-seq list.txt

Output Set: N:\CRF4\07072005\J511545.raw

L:11 M:270 C: Current Application Number differs, Replaced Current Application Number

L:12 M:271 C: Current Filing Date differs, Replaced Current Filing Date